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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/37251

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 17/00, 27/00  
US CL : 73/86; 324/71.2

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 73/86; 324/71.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
NONE

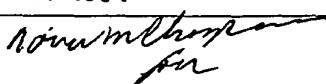
C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,006,786 A (MCKUBRE et al) 09 April 1991 (09.04.1991), figures 3 and 4, column 7 line 29 to column 8 line 10.	1-18
Y	JP 61065137 A (YASUDA) 03 April 1986 (03.04.1986), figure 2 item 7, Derwent abstract.	1-18
Y	US 4,889,608 A (EICKMANN) 26 December 1989 (26.12.1989), see entire document.	10-17
A	US 6,621,263 B2 (AL-JANABI et al) 16 September 2003 (16.09.2003), see entire citation.	1-18
A	US 5,579,354 A (SAKAI et al) 26 November 1996 (26.11.1996), see entire citation.	1-18
A	US 4,585,579 A (BOMMARUU et al) 29 April 1986 (29.04.1986), see entire citation.	1-18
A	US 4,097,341 A (SCHELL et al) 27 June 1978 (27.06.1978), see entire citation.	1-18

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 22 March 2004 (22.03.2004)	Date of mailing of the international search report 24 MAY 2004
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